Amendments to the CLAIMS:

Without prejudice, this listing of the claims replaces all prior versions and listings of the claims in the present application:

LISTING OF CLAIMS:

1. (Currently Amended) A tomographic image reading method for extracting a comparison image corresponding to a diagnostic image. and displaying the images, said diagnostic image being a slice image which is one of first tomographic images, said comparison image being a slice image which is one of second tomographic images which are taken at the time different from the time when the first tomographic images are taken, body section being a slice plane in the X-Y axial direction and body axis being in the Z axial direction, said method comprising the steps of:

inputting said first tomographic images and said second tomographic images;

generating a first projection image from said first tomographic images and a second projection image from said second tomographic images, wherein the direction of projection for generating each of said first and second projection images is perpendicular to the Z axial direction;

measuring shift amount between said first projection image and said second projection image by searching said second projection image for the same area as a template, said template being generated from said first projection image such that said template includes an area in which a specific object image exists;

correcting the slice position according to said shift amount between said first projection image and said second projection image; and

displaying said diagnostic image and said comparison image at a corrected slice position to a monitor;

wherein the first projection image and the second projection image are used to find a comparison image whose slice position corresponds to a slice position of a diagnostic image, so that the corrected slice position is used to find a corresponding slice position.

2. (Currently Amended) An image alignment method for extracting a comparison image corresponding to a diagnostic image and displaying the images, said diagnostic image being a slice image which is one of first tomographic images, said comparison image being a slice image which is one of second tomographic images which are taken at the time different from the time when the first tomographic images are taken, body section being a slice plane in the X-Y axial direction and body axis being in the Z axial direction, said method comprising the steps of:

inputting said first tomographic images and said second tomographic images;

aligning resolutions of said first tomographic images and said second tomographic images by scaling one or both of said tomographic images when the resolutions of said first tomographic images and said second tomographic images are different;

generating a first projection image from said first tomographic images and a second projection image from said second tomographic images, wherein the direction of projection for generating each of said first and second projection images is perpendicular to the Z axial direction;

measuring shift amount between said first projection image and said second projection image by searching said second projection image for the same area as a template by performing pattern matching while shifting said template by an interval, said template being generated from said first projection image such that said template includes an area in which a specific object image exists;

correcting the slice position according to said shift amount between said first projection image and said second projection image; and

displaying said diagnostic image and said comparison image at a corrected slice position to a monitor;

wherein the first projection image and the second projection image are used to find a comparison image whose slice position corresponds to a slice position of a diagnostic image, so that the corrected slice position is used to find a corresponding slice position.

3. (Previously Presented) A tomographic image reading method for extracting a comparison image corresponding to a diagnostic image. and displaying the images, said diagnostic image being a slice image which is one of first tomographic images, said comparison image being a slice image which is one of second tomographic images which are taken at the time different from the time when the first tomographic images are taken, body section being a slice plane in the X-Y axial direction and body axis being in the Z axial direction, said method comprising the steps of:

inputting said first tomographic images and said second tomographic images;

generating a first projection image from said first tomographic images and a second projection image from said second tomographic images;

measuring shift amount between said first projection image and said second projection image by searching said second projection image for the same area as a template, said template being generated from said first projection image such that said template includes an area in which a specific object image exists;

correcting the slice position according to said shift amount between said first projection image and said second projection image;

displaying said diagnostic image and said comparison image at a corrected slice position to a monitor; and

adjusting positions of said diagnostic image and said comparison image which are displayed;

wherein a MIDI signal constructing method is used for the adjusting step, said MIDI signal constructing method comprising the steps of:

providing n different MIDI channels or control numbers or combinations of them for a signal x which has 128 X n stages in which n is a positive integer;

assuming said MIDI channels or said control numbers or said combinations as p=1, 2, . . . n;

dividing said signal x into 128 parts W(l) (l; $0 \leq l \leq 127$) in ascending order and assigning p which is equal to r+1 (r; $0 \leq l < n$) to said signal x which is equal to l X n + r; and

constructing and sending a MIDI control change message in which a control value is 1 by using a MIDI channel or control number corresponding to p.

4. (Currently Amended) An image alignment method for extracting a comparison image corresponding to a diagnostic image and displaying the images, said diagnostic image being a slice image which is one of first tomographic images, said comparison image being a slice image which is one of second tomographic images which are taken at the time different from the time when the first tomographic images are taken, body section being a slice plane in the X-Y axial direction and body axis being in the Z axial direction, said method comprising the steps of:

inputting said first tomographic images and said second tomographic images;

aligning resolutions of said first tomographic images and said second tomographic images by scaling one or both of said tomographic images when the resolutions of said first tomographic images and said second tomographic images are different;

generating a first projection image of the X axial direction from said first tomographic images and generating a second projection image of the X axial direction from said second tomographic images;

measuring shift amount between said first projection image and said second projection image by searching said second projection image for the same area as a template by performing pattern matching while shifting said template by an interval, said template being generated from said first projection image such that said template includes an area in which a specific object image exists;

correcting the slice position according to said shift amount between said first projection image and said second projection image; and

displaying said diagnostic image and said comparison image at a corrected slice position to a monitor;

wherein the first projection image and the second projection image are used to find a comparison image whose slice position corresponds to a slice position of a diagnostic image, so that the corrected slice position is used to find a corresponding slice position.

5. (Canceled).

6. (Currently Amended) A slice image automatic alignment method for extracting a comparison image corresponding to a diagnostic image, said diagnostic image being a slice image which is one of first tomographic images, said comparison image being a slice image which is one of second tomographic images which are taken at the time different from the time when the first tomographic images are taken, body section being a slice plane in the X-Y axial direction and body axis being in the Z axial direction, said method comprising the steps of:

inputting said first tomographic images and said second tomographic images;

aligning resolutions of said first tomographic images and said second tomographic images by scaling one or both of said tomographic images when the resolutions of said first tomographic images and said second tomographic images are different;

generating a first projection image from said first tomographic images and a second projection image from said second tomographic images, wherein the direction of projection for generating each of said first and second projection images is perpendicular to the Z axial direction;

measuring shift amount between said first projection image and said second projection image by searching said second projection image for the same area as a template by performing pattern matching while shifting said template by an interval, said template being generated from said first projection image such that said template includes an area in which a specific object image exists; and

correcting the slice position according to said shift amount between said first projection image and said second projection image;

wherein the first projection image and the second projection image are used to find a comparison image whose slice position corresponds to a slice position of a diagnostic image, so that the corrected slice position is used to find a corresponding slice position.

7. (Original) The slice image automatic alignment method as claimed in claim 6, the

step of generating projection images including the step of:

generating said projection image comprising pixel values obtained by adding pixel values of said tomographic images in the X or Y axial direction or in any other direction.

8. (Original) The slice image automatic alignment method as claimed in claim 6, the step of generating projection images including the step of:

generating a two dimensional image sequence comprising pixel values obtained by adding pixel values of said tomographic images in the X or Y axial direction or in any other direction; and

generating said projection image by interpolating said two dimensional image sequence.

9. (Original) The slice image automatic alignment method as claimed in claim 6, wherein said template is an area of 25% to 50% from the top end of said first projection image in the Z axial direction.

10. (Currently Amended) A slice image automatic alignment method for extracting a comparison image corresponding to a diagnostic image, said diagnostic image being a slice image which is one of first tomographic images, said comparison image being a slice image which is one of second tomographic images which are taken at the time different from the time when the first tomographic images are taken, body section being a slice plane in the X-Y axial direction and body axis being in the Z axial direction, said method comprising the steps of:

inputting said first tomographic images and said second tomographic images;

aligning resolutions of said first tomographic images and said second tomographic images by scaling one or both of said tomographic images when the resolutions of said first tomographic images and said second tomographic images are different;

generating a first projection image of the X axial direction from said first

tomographic images and generating a second projection image of the X axial direction from said second tomographic images;

measuring shift amount between said first projection image and said second projection image by searching said second projection image for the same area as a template by performing pattern matching while shifting said template by an interval, said template being generated from said first projection image such that said template includes an area in which a specific object image exists; and

correcting the slice position according to said shift amount between said first projection image and said second projection image;

wherein the first projection image and the second projection image are used to find a comparison image whose slice position corresponds to a slice position of a diagnostic image, so that the corrected slice position is used to find a corresponding slice position.

11. (Canceled).

12. (Original) The slice image automatic alignment method as claimed in claim 10, the step of generating projection images including the step of:

generating a two dimensional image sequence comprising pixel values obtained by adding pixel values of said tomographic images in the X axial direction; and

generating said projection image by interpolating said two dimensional image sequence.

13. (Original) The slice image automatic alignment method as claimed in claim 10, the step of finding said reference position and correcting shift including the steps of:

extracting a bed area as said reference position from said first tomographic image and said second tomographic image or said first projection image and said second projection image;

correcting shift in the Y axial direction on the basis of the bed surface, said Y axial direction being perpendicular to said bed surface.

14. (Original) The slice image automatic alignment method as claimed in claim 10, the step of finding said reference position and correcting shift including the steps of:

finding a body part which contacts the bed as said reference position from said first tomographic image and said second tomographic image or said first projection image and said second projection image;

correcting shift in the Y axial direction on the basis of said part, said Y axial direction being perpendicular to said part.

15. (Original) The slice image automatic alignment method as claimed in claim 10, the step of finding said reference position and correcting shift including the steps of:

finding a backbone part as said reference position from said first tomographic image and said second tomographic image or said first projection image and said second projection image;

correcting shift in the Y axial direction on the basis of said backbone part, said Y axial direction being perpendicular to said backbone part.

16. (Original) The slice image automatic alignment method as claimed in claim 6, the step of generating projection images including the step of generating said projection image in which weight is assignment to a specific observation object by setting a window level and a window width.

17. (Original) The slice image automatic alignment method as claimed in claim 10, the step of generating projection images including the step of generating said projection image in which weight is assignment to a specific observation object by setting a window level and a window width.

18. (Original) The slice image automatic alignment method as claimed in claim 6, the step of generating projection images including the step of generating said projection image in which only a part including a distinctive part is projected.

19. (Original) The slice image automatic alignment method as claimed in class 10, the step of generating projection images including the step of generating said projection image in which only a part including a distinctive part is projected.

20. (Original) The slice image automatic alignment method as claimed in class 6, the step of measuring said shift amount including the steps of:

generating a plurality of templates;

performing template matching on said second projection image by said plurality of templates; and

measuring shift amount between said first projection image and said second projection image from a plurality of reference points.

21. (Original) The slice image automatic alignment method as claimed in claim 10, the step of measuring said shift amount including the steps of:

generating a plurality of templates;

performing template matching on said second projection image by said plurality of templates; and

measuring shift amount between said first projection image and said second projection image from a plurality of reference points.

22. (Original) The slice image automatic alignment method as claimed in claim 10, wherein said template is an area of 25% to 50% from the top end of said first projection image in the Z axial direction.

23. (Canceled).

24. (Currently Amended) A tomographic image reading apparatus for extracting a comparison image corresponding to a diagnostic image and displaying the images, said diagnostic image being a slice image which is one of first tomographic images, said comparison image being a slice image which is one of second tomographic images which are

taken at the time different from the time when the first tomographic images are taken, body section being a slice plane in the X-Y axial direction and body axis being in the Z axial direction, said apparatus comprising:

inputting means for inputting said first tomographic images and said second tomographic images;

projection image generation means for generating a first projection image from said first tomographic images and a second projection image from said second tomographic images, wherein the direction of projection for generating each of said first and second projection images is perpendicular to the Z axial direction;

template generation means for generating a template from said first projection image such that said template includes an area in which a specific object image exists;

matching means for measuring shift amount between said first projection image and said second projection image by searching said second projection image for the same area as said template;

slice position correcting means for correcting the slice position according to said shift amount between said first projection image and said second projection image; and

displaying means for displaying said diagnostic image and said comparison image at a corrected slice position to a monitor;

wherein the first projection image and the second projection image are used to find a comparison image whose slice position corresponds to a slice position of a diagnostic image, so that the corrected slice position is used to find a corresponding slice position.

25. (Currently Amended) An image alignment apparatus for extracting a comparison image corresponding to a diagnostic image and displaying the images, said diagnostic image being a slice image which is one of first tomographic images, said comparison image being a slice image which is one of second tomographic images which are taken at the time different from the time when the first tomographic images are taken, body section being a slice plane in the X-Y axial direction and body axis being in the Z axial direction, said apparatus comprising:

inputting means for inputting said first tomographic images and said second tomographic images;

resolution aligning means for aligning resolutions of said first tomographic images and said second tomographic images by scaling one or both of said tomographic images when the resolutions of said first tomographic images and said second tomographic images are different;

projection image generation means for generating a first projection image from said first tomographic images and a second projection image from said second tomographic images, wherein the direction of projection for generating each of said first and second projection images is perpendicular to the Z axial direction;

template generation means for generating a template from said first projection image such that said template includes an area in which a specific object image exists;

matching means for measuring shift amount between said first projection image and said second projection image by searching said second projection image for the same area as said template by performing pattern matching while shifting said template by an interval;

slice position correcting means for correcting the slice position according to said shift amount between said first projection image and said second projection image; and

displaying means for displaying said diagnostic image and said comparison image at a corrected slice position to a monitor;

wherein the first projection image and the second projection image are used to find a comparison image whose slice position corresponds to a slice position of a diagnostic image, so that the corrected slice position is used to find a corresponding slice position.

26. (Currently Amended) An image alignment apparatus for extracting a comparison image corresponding to a diagnostic image and displaying the images, said diagnostic image being a slice image which is one of first tomographic images, said comparison image being a slice image which is one of second tomographic images which are taken at the time different from the time when the first tomographic images are taken, body section being a slice plane

in the X-Y axial direction and body axis being in the Z axial direction, said apparatus comprising:

inputting means for inputting said first tomographic images and said second tomographic images;

resolution aligning means for aligning resolutions of said first tomographic images and said second tomographic images by scaling ore or both of said tomographic images when the resolutions of said first tomographic images and said second tomographic images are different;

projection image generation means for generating a first projection image of the X axial direction from said first tomographic images and generating a second projection image of the X axial direction from said second tomographic images;

template generation means for generating a template from said first projection image such that said template includes an area in which a specific object image exists;

matching means for measuring shift amount between said first projection image and said second projection image by searching said second projection image for the same area as said template by performing pattern matching while shifting said template by an interval;

slice position correcting means for correcting the slice position according to said shift amount between said first projection image and said second projection image; and

displaying means for displaying said diagnostic image and said comparison image at a corrected slice position to a monitor;

wherein the first projection image and the second projection image are used to find a comparison image whose slice position corresponds to a slice position of a diagnostic image, so that the corrected slice position is used to find a corresponding slice position.

27. (Canceled).

28. (Currently Amended) A slice image automatic alignment apparatus for extracting a comparison image corresponding to a diagnostic image, said diagnostic image being a slice

image which is one of first tomographic images, said comparison image being a slice image which is one of second tomographic images which are taken at the time different from the time when the first tomographic images are taken, body section being a slice plane in the X-Y axial direction and body axis being in the Z axial direction, said apparatus comprising:

inputting means for inputting said first tomographic images and said second tomographic images;

resolution aligning means for aligning resolutions of said first tomographic images and said second tomographic images by scaling one or both of said tomographic images when the resolutions of said first tomographic images and said second tomographic images are different;

projection image generation means for generating a first projection image from said first tomographic images and a second projection image from said second tomographic images, wherein the direction of projection for generating each of said first and second projection images is perpendicular to the Z axial direction;

template generation means for generating a template from said first projection image such that said template includes an area in which a specific object image exists;

matching means for measuring shift amount between said first projection image and said second projection image by searching said second projection image for the same area as said template by performing pattern matching while shifting said template by an interval; and

slice position correcting means for correcting the slice position according to said shift amount between said first projection image and said second projection image;

wherein the first projection image and the second projection image are used to find a comparison image whose slice position corresponds to a slice position of a diagnostic image, so that the corrected slice position is used to find a corresponding slice position.

29. (Currently Amended) A slice image automatic alignment apparatus for extracting a comparison image corresponding to a diagnostic image, said diagnostic image being a slice image which is one of first tomographic images, said comparison image being a slice image

which is one of second tomographic images which are taken at the time different from the time when the first tomographic images are taken, body section being a slice plane in the X-Y axial direction and body axis being in the Z axial direction, said apparatus comprising:

inputting means for inputting said first tomographic images and said second tomographic images;

resolution aligning means for aligning resolutions of said first tomographic images and said second tomographic images by scaling one or both of said tomographic images when the resolutions of said first tomographic images and said second tomographic images are different;

projection image generation means for generating a first projection image of the X axial direction from said first tomographic images and generating a second projection image of the X axial direction from said second tomographic images;

template generation means for generating a template from said first projection image such that said template includes an area in which a specific object image exists;

matching means for measuring shift amount between said first projection image and said second projection image by searching said second projection image for the same area as said template by performing pattern matching while shifting said template by an interval; and

slice position correcting means for correcting the slice position according to said shift amount between said first projection image and said second projection image;

wherein the first projection image and the second projection image are used to find a comparison image whose slice position corresponds to a slice position of a diagnostic image, so that the corrected slice position is used to find a corresponding slice position.

30. (Canceled).

31. (Currently Amended) A computer readable medium storing program code for causing a computer to extract a comparison image corresponding to a diagnostic image and to display the images, said diagnostic image being a slice image which is one of first

tomographic images, said comparison image being a slice image which is one of second tomographic images which are taken at the time different from the time when the first tomographic images are taken, body section being a slice plane in the X-Y axial direction and body axis being in the Z axial direction, said computer readable medium comprising:

program code means for inputting said first tomographic images and said second tomographic images;

program code means for generating a first projection image from said first tomographic images and a second projection image from said second tomographic images, wherein the direction of projection for generating each of said first and second projection images is perpendicular to the Z axial direction;

program code means for measuring shift amount between said first projection image and said second projection image by searching said second projection image for the same area as a template, said template being generated from said first projection image such that said template includes an area in which a specific object image exists;

program code means for correcting the slice position according to said shift amount between said first projection image and said second projection image; and

program code means for displaying said diagnostic image and said comparison image at a corrected slice position to a monitor;

wherein the first projection image and the second projection image are used to find a comparison image whose slice position corresponds to a slice position of a diagnostic image, so that the corrected slice position is used to find a corresponding slice position.

32. (Currently Amended) A computer readable medium storing program code for causing a computer to extract a comparison image corresponding to a diagnostic image and to display the images, said diagnostic image being a slice image which is one of first tomographic images, said comparison image being a slice image which is one of second tomographic images which are taken at the time different from the time when the first tomographic images are taken, body section being a slice plane in the X-Y axial direction and body axis being in the Z axial direction, said computer readable medium comprising:

program code means for inputting said first tomographic images and said

second tomographic images;

program code means for aligning resolutions of said first tomographic images and said second tomographic images by scaling one or both of said tomographic images when the resolutions of said first tomographic images and said second tomographic images are different;

program code means for generating a first projection image from said first tomographic images and a second projection image from said second tomographic images, wherein the direction of projection for generating each of said first and second projection images is perpendicular to the Z axial direction;

program code means for measuring shift amount between said first projection image and said second projection image by searching said second projection image for the same area as a template by performing pattern matching while shifting said template by an interval, said template being generated from said first projection image such that said template includes an area in which a specific object image exists;

program code means for correcting the slice position according to said shift amount between said first projection image and said second projection image; and

program code means for displaying said diagnostic image and said comparison image at a corrected slice position to a monitor;

wherein the first projection image and the second projection image are used to find a comparison image whose slice position corresponds to a slice position of a diagnostic image, so that the corrected slice position is used to find a corresponding slice position.

33. (Previously Presented) A computer readable medium storing program code for causing a computer to extract a comparison image corresponding to a diagnostic image and to display the images, said diagnostic image being a slice image which is one of first tomographic images, said comparison image being a slice image which is one of second tomographic images which are taken at the time different from the time when the first tomographic images are taken, body section being a slice plane in the X-Y axial direction and body axis being in the Z axial direction, said computer readable medium comprising:

program code means for inputting said first tomographic images and said second

tomographic images;

program code means for aligning resolutions of said first tomographic images and said second tomographic images by scaling one or both of said tomographic images when the resolutions of said first tomographic images and said second tomographic images are different;

program code means for generating a first projection image from said first tomographic images and a second projection image from said second tomographic images;

program code means for measuring shift amount between said first projection image and said second projection image by searching said second projection image for the same area as a template by performing pattern matching while shifting said template by an interval, said template being generated from said first projection image such that said template includes an area in which a specific object image exists;

program code means for correcting the slice position according to said shift amount between said first projection image and said second projection image;

program code means for displaying said diagnostic image and said comparison image at a corrected slice position to a monitor; and

adjusting program code means for adjusting positions of said diagnostic image and said comparison image which are displayed;

wherein a MIDI signal constructing program code means is used for adjusting program code means, said MIDI signal constructing program code means including:

program code means for providing n different MIDI channels or control numbers or combinations of them for a signal x which has 128 X n stages in which n is a positive integer;

program code means for assuming said MIDI channels or said control numbers or said combinations as p=1, 2, . . . n;

program code means for dividing said signal x into 128 parts W(l) (l; $0 \leq l \leq 127$) in ascending order and assigning p which is equal to r+1 (r; $0 \leq r < n$) to said signal x which is equal to l X n + r; and

program code means for constructing and sending a MIDI control change message in which a control value is 1 by using a MIDI channel or control number

corresponding to p.

34. (Currently Amended) A computer readable medium storing program code for causing a computer to extract a comparison image corresponding to a diagnostic image, said diagnostic image being a slice image which is one of first tomographic images, said comparison image being a slice image which is one of second tomographic images which are taken at the time different from the time when the first tomographic images are taken, body section being a slice plane in the X-Y axial direction and body axis being in the Z axial direction, said computer readable medium comprising:

program code means for inputting said first tomographic images and said second tomographic images;

program code means for aligning resolutions of said first tomographic images and said second tomographic images by scaling one or both of said tomographic images when the resolutions of said first tomographic images and said second tomographic images are different;

program code means for generating a first projection image from said first tomographic images and a second projection image from said second tomographic images, wherein the direction of projection for generating each of said first and second projection images is perpendicular to the Z axial direction;

program code means for measuring shift amount between said first projection image and said second projection image by searching said second projection image for the same area as a template by performing pattern matching while shifting said template by an interval, said template. being generated from said first projection image such that said template includes an area in which a specific object image exists; and

program code means for correcting the slice position according to said shift amount between said first projection image and said second projection image;

wherein the first projection image and the second projection image are used to find a comparison image whose slice position corresponds to a slice position of a diagnostic image, so that the corrected slice position is used to find a corresponding slice position.

35. (Original) The computer readable medium as claimed in claim 34, said program code means for generating said projection images comprising:

program code means for generating said projection image comprising pixel values obtained by adding pixel values of said tomographic images in the X or Y axial direction or in any other direction.

36. (Original) The computer readable medium as claimed in claim 34, said program code means for generating said projection images comprising:

program code means for generating a two dimensional image sequence comprising pixel values obtained by adding pixel values of said tomographic images in the X or Y axial direction or in any other direction; and

generating said projection image by interpolating said two dimensional image sequence.

37. (Original) The computer readable medium as claimed in claim 34, wherein said template is an area of 25% to 50% from the top end of said first projection image in the Z axial direction.

38. (Currently Amended) A computer readable medium storing program code for causing a computer to extract a comparison image corresponding to a diagnostic image, said diagnostic image being a slice image which is one of first tomographic images, said comparison image being a slice image which is one of second tomographic images which are taken at the time different from the time when the first tomographic images are taken, body section being a slice plane in the X-Y axial direction and body axis being in the Z axial direction, said computer readable medium comprising:

program code means for inputting said first tomographic images and said second tomographic images;

program code means for aligning resolutions of said first tomographic images and said second tomographic images by scaling one or both of said tomographic images when the resolutions of said first tomographic images and said second

tomographic images are different;

program code means for generating a first projection image of the X axial direction from said first tomographic images and generating a second projection image of the X axial direction from said second tomographic images;

program code means for measuring shift amount between said first projection image and said second projection image by searching said second projection image for the same area as a template by performing pattern matching while shifting said template by an interval, said template being generated from said first projection image such that said template includes an area in which a specific object image exists; and

program code means for correcting the slice position according to said shift amount between said first projection image and said second projection image;

wherein the first projection image and the second projection image are used to find a comparison image whose slice position corresponds to a slice position of a diagnostic image, so that the corrected slice position is used to find a corresponding slice position.

39. (Canceled).

40. (Original) The computer readable medium as claimed in claim 38, said program code means for generating said projection images comprising:

program code means for generating a two dimensional image sequence comprising pixel values obtained by adding pixel values of said tomographic images in the X axial direction; and

program code means for generating said projection image by interpolating said two dimensional image sequence.

41. (Original) The computer readable medium as claimed in claim 38, said program code means for finding said reference position and correcting shift comprising:

program code means for extracting a bed area as said reference position from said first tomographic image and said second tomographic image or said first projection image and said second projection image;

program code means for correcting shift in the Y axial direction on the basis of the bed surface, said Y axial direction being perpendicular to said bed surface.

42. (Original) The computer readable medium as claimed in claim 38, said program code means for finding said reference position and correcting shift comprising:

program code means for finding a body part which contacts the bed as said reference position from said first tomographic image and said second tomographic image or said first projection image and said second projection image;

program code means for correcting shift in the Y axial direction on the basis of said part, said Y axial direction being perpendicular to said part.

43. (Original) The computer readable medium as claimed in claim 38, said program code means for finding said reference position and correcting shift comprising:

program code means for finding a backbone part as said reference position from said first tomographic image and said second tomographic image or said first projection image and said second projection image;

program code means for correcting shift in the Y axial direction on the basis of said backbone part, said Y axial direction being perpendicular to said backbone part.

44. (Original) The computer readable medium as claimed in claim 34, said program code means for generating said projection images comprising program code means for generating said projection image in which weight is assigned to a specific observation objection by setting a window level and a window width.

45. (Original) The computer readable medium as claimed in claim 38, said program code means for generating said projection images comprising program code means for generating said projection image in which weight is assignment to a specific observation object by setting a window level and a window width.

46. (Original) The computer readable medium as claimed in claim 34, said program

code means for generating said projection images comprising program code means for generating said projection image in which only a part including a distinctive part is projected.

47. (Original) The computer readable medium as claimed in claim 38, said program code means for generating said projection images comprising program code means for generating said projection image in which only a part including a distinctive part is projected.

48. (Previously Presented) The computer readable medium as claimed in claim 34, said program code means for measuring said shift amount comprising:

program code means for generating a plurality of templates;

program code means for performing template matching on said second projection image by said plurality of templates; and

program code means for measuring shift amount between said first projection image from a plurality of reference points.

49. (Previously Presented) The computer readable medium as claimed in claim 38, said program code means for measuring said shift amount comprising:

program code means for generating a plurality of templates;

program code means for performing templates matching on said second projection image by said plurality of templates; and

program code means for measuring shift amount between said first projection image and said second projection image from a plurality of reference points.

50. (Previously Presented) The image alignment method as claimed in claim 4, said method further comprising the step of finding a reference position in the Y axial direction for the projection images or for the tomographic images and correcting shift in the Y axial direction on the basis of said reference position.

51. (Previously Presented) The slice image automatic alignment method as claimed in claim 10, said method comprising the step of finding a reference position in the Y axial

direction for the projection images or the tomographic images and correcting shift in the Y axial direction on the basis of said reference position.

52. (Previously Presented) The image alignment apparatus as claimed in claim 26, said apparatus further comprising:

reference position recognition means for finding a reference position in the Y axial direction for the tomographic images or the projection images; and

shift correcting means for correcting shift in the Y axial direction on the basis of said reference position.

53. (Previously Presented) The slice image automatic alignment apparatus as claimed in claim 29, said apparatus further comprising:

reference position recognition means for finding a reference position in the Y axial direction for the tomographic images or the projection images; and

shift correcting means for correcting shift in the Y axial direction on the basis of said reference position.

54. (Previously Presented) The computer readable medium as claimed in claim 38, said computer readable medium further comprising:

program code means for finding a reference position in the Y axial direction for the tomographic images or the projection images and correcting shift in the Y axial direction on the basis of said reference position.

55-68. (Canceled).

69. (New) The method of claim 1, further comprising:

adjusting positions of said diagnostic image and said comparison image which are displayed by providing a MIDI signal.

70. (New) The method of claim 1, further comprising:

adjusting positions of said diagnostic image and said comparison image which are displayed, wherein the adjusting includes constructing a MIDI signal by:

providing different MIDI channels or control numbers or combinations of them for a signal;

dividing said signal into a number of parts and assigning a number to said signal; and

constructing a MIDI control change message by using a MIDI channel or a control number.

71. (New) The method of claim 1, further comprising:

adjusting positions of said diagnostic image and said comparison image which are displayed, wherein the adjusting includes constructing a MIDI signal by:

providing n different MIDI channels or control numbers or combinations of them for a signal x;

assuming said MIDI channels or said control numbers or said combinations as p=1, 2, . . . n;

dividing said signal x into a number of parts and assigning p to said signal x; and

constructing a MIDI control change message by using a MIDI channel or a control number corresponding to p.

72. (New) The method of claim 2, further comprising:

adjusting positions of said diagnostic image and said comparison image which are displayed by providing a MIDI signal.

73. (New) The method of claim 2, further comprising:

adjusting positions of said diagnostic image and said comparison image which are displayed, wherein the adjusting includes constructing a MIDI signal by:

providing different MIDI channels or control numbers or combinations of them for a signal;

dividing said signal into a number of parts and assigning a number to said signal; and

constructing a MIDI control change message by using a MIDI channel or a control number.

74. (New) The method of claim 2, further comprising:

adjusting positions of said diagnostic image and said comparison image which are displayed, wherein the adjusting includes constructing a MIDI signal by:

providing n different MIDI channels or control numbers or combinations of them for a signal x;

assuming said MIDI channels or said control numbers or said combinations as p=1, 2, . . . n;

dividing said signal x into a number of parts and assigning p to said signal x; and

constructing a MIDI control change message by using a MIDI channel or a control number corresponding to p.

75. (New) The method of claim 4, further comprising:

adjusting positions of said diagnostic image and said comparison image which are displayed by providing a MIDI signal.

76. (New) The method of claim 4, further comprising:

adjusting positions of said diagnostic image and said comparison image which are displayed, wherein the adjusting includes constructing a MIDI signal by:

providing different MIDI channels or control numbers or combinations of them for a signal;

dividing said signal into a number of parts and assigning a number to said signal; and

constructing a MIDI control change message by using a MIDI channel or a control number.

77. (New) The method of claim 4, further comprising:

adjusting positions of said diagnostic image and said comparison image which are displayed, wherein the adjusting includes constructing a MIDI signal by:

providing n different MIDI channels or control numbers or combinations of them for a signal x;

assuming said MIDI channels or said control numbers or said combinations as p=1, 2, . . . n;

dividing said signal x into a number of parts and assigning p to said signal x; and

constructing a MIDI control change message by using a MIDI channel or a control number corresponding to p.

78. (New) The method of claim 6, further comprising:

adjusting positions of said diagnostic image and said comparison image by providing a MIDI signal.

79. (New) The method of claim 6, further comprising:

adjusting positions of said diagnostic image and said comparison image, wherein the adjusting includes constructing a MIDI signal by:

providing different MIDI channels or control numbers or combinations of them for a signal;

dividing said signal into a number of parts and assigning a number to said signal; and

constructing a MIDI control change message by using a MIDI channel or a control number.

80. (New) The method of claim 6, further comprising:

adjusting positions of said diagnostic image and said comparison image, wherein the adjusting includes constructing a MIDI signal by:

providing n different MIDI channels or control numbers or combinations of

them for a signal x;

assuming said MIDI channels or said control numbers or said combinations as p=1, 2, . . . n;

dividing said signal x into a number of parts and assigning p to said signal x; and

constructing a MIDI control change message by using a MIDI channel or a control number corresponding to p.

81. (New) The method of claim 10, further comprising:

adjusting positions of said diagnostic image and said comparison image by providing a MIDI signal.

82. (New) The method of claim 10, further comprising:

adjusting positions of said diagnostic image and said comparison image, wherein the adjusting includes constructing a MIDI signal by:

providing different MIDI channels or control numbers or combinations of them for a signal;

dividing said signal into a number of parts and assigning a number to said signal; and

constructing a MIDI control change message by using a MIDI channel or a control number.

83. (New) The method of claim 10, further comprising:

adjusting positions of said diagnostic image and said comparison image, wherein the adjusting includes constructing a MIDI signal by:

providing n different MIDI channels or control numbers or combinations of them for a signal x;

assuming said MIDI channels or said control numbers or said combinations as p=1, 2, . . . n;

dividing said signal x into a number of parts and assigning p to said signal x;

and

constructing a MIDI control change message by using a MIDI channel or a control number corresponding to p.

84. (New) The apparatus of claim 24, further comprising:

means for adjusting positions of said diagnostic image and said comparison image which are displayed by providing a MIDI signal.

85. (New) The apparatus of claim 24, further comprising:

means for adjusting positions of said diagnostic image and said comparison image which are displayed, wherein the adjusting includes constructing a MIDI signal by:

providing different MIDI channels or control numbers or combinations of them for a signal;

dividing said signal into a number of parts and assigning a number to said signal; and

constructing a MIDI control change message by using a MIDI channel or a control number.

86. (New) The apparatus of claim 24, further comprising:

means for adjusting positions of said diagnostic image and said comparison image which are displayed, wherein the adjusting includes constructing a MIDI signal by:

providing n different MIDI channels or control numbers or combinations of them for a signal x;

assuming said MIDI channels or said control numbers or said combinations as p=1, 2, . . . n;

dividing said signal x into a number of parts and assigning p to said signal x; and

constructing a MIDI control change message by using a MIDI channel or a control number corresponding to p.

87. (New) The apparatus of claim 25, further comprising:

means for adjusting positions of said diagnostic image and said comparison image which are displayed by providing a MIDI signal.

88. (New) The apparatus of claim 25, further comprising:

means for adjusting positions of said diagnostic image and said comparison image which are displayed, wherein the adjusting includes constructing a MIDI signal by:

providing different MIDI channels or control numbers or combinations of them for a signal;

dividing said signal into a number of parts and assigning a number to said signal; and

constructing a MIDI control change message by using a MIDI channel or a control number.

89. (New) The apparatus of claim 25, further comprising:

means for adjusting positions of said diagnostic image and said comparison image which are displayed, wherein the adjusting includes constructing a MIDI signal by:

providing n different MIDI channels or control numbers or combinations of them for a signal x;

assuming said MIDI channels or said control numbers or said combinations as p=1, 2, . . . n;

dividing said signal x into a number of parts and assigning p to said signal x; and

constructing a MIDI control change message by using a MIDI channel or a control number corresponding to p.

90. (New) The apparatus of claim 26, further comprising:

means for adjusting positions of said diagnostic image and said comparison image which are displayed by providing a MIDI signal.

91. (New) The apparatus of claim 26, further comprising:

means for adjusting positions of said diagnostic image and said comparison image which are displayed, wherein the adjusting includes constructing a MIDI signal by:

providing different MIDI channels or control numbers or combinations of them for a signal;

dividing said signal into a number of parts and assigning a number to said signal; and

constructing a MIDI control change message by using a MIDI channel or a control number.

92. (New) The apparatus of claim 26, further comprising:

means for adjusting positions of said diagnostic image and said comparison image which are displayed, wherein the adjusting includes constructing a MIDI signal by:

providing n different MIDI channels or control numbers or combinations of them for a signal x;

assuming said MIDI channels or said control numbers or said combinations as p=1, 2, . . . n;

dividing said signal x into a n umber of parts and assigning p to said signal x; and

constructing a MIDI control change message by using a MIDI channel or a control number corresponding to p.

93. (New) The apparatus of claim 28, further comprising:

means for adjusting positions of said diagnostic image and said comparison image by providing a MIDI signal.

94. (New) The apparatus of claim 28, further comprising:

means for adjusting positions of said diagnostic image and said comparison image, wherein the adjusting includes constructing a MIDI signal by:

providing different MIDI channels or control numbers or combinations of

them for a signal;

dividing said signal into a number of parts and assigning a number to said signal; and

constructing a MIDI control change message by using a MIDI channel or a control number.

95. (New) The apparatus of claim 28, further comprising:

means for adjusting positions of said diagnostic image and said comparison image, wherein the adjusting includes constructing a MIDI signal by:

providing n different MIDI channels or control numbers or combinations of them for a signal x;

assuming said MIDI channels or said control numbers or said combinations as p=1, 2, . . . n;

dividing said signal x into a number of parts and assigning p to said signal x; and

constructing a MIDI control change message by using a MIDI channel or a control number corresponding to p.

96. (New) The apparatus of claim 29, further comprising:

means for adjusting positions of said diagnostic image and said comparison image by providing a MIDI signal.

97. (New) The apparatus of claim 29, further comprising:

means for adjusting positions of said diagnostic image and said comparison image, wherein the adjusting includes constructing a MIDI signal by:

providing different MIDI channels or control numbers or combinations of them for a signal;

dividing said signal into a number of parts and assigning a number to said signal; and

constructing a MIDI control change message by using a MIDI channel or a

control number.

98. (New) The apparatus of claim 29, further comprising:

means for adjusting positions of said diagnostic image and said comparison image, wherein the adjusting includes constructing a MIDI signal by:

providing n different MIDI channels or control numbers or combinations of them for a signal x;

assuming said MIDI channels or said control numbers or said combinations as p=1, 2, . . . n;

dividing said signal x into a number of parts and assigning p to said signal x; and

constructing a MIDI control change message by using a MIDI channel or a control number corresponding to p.

99. (New) The computer readable medium of claim 31, further comprising:

program code means for adjusting positions of said diagnostic image and said comparison image which are displayed by providing a MIDI signal.

100. (New) The computer readable medium of claim 31, further comprising:

program code means for adjusting positions of said diagnostic image and said comparison image which are displayed, wherein the adjusting includes constructing a MIDI signal by:

providing different MIDI channels or control numbers or combinations of them for a signal;

dividing said signal into a number of parts and assigning a number to said signal; and

constructing a MIDI control change message by using a MIDI channel or a control number.

101. (New) The computer readable medium of claim 31, further comprising:

program code means for adjusting positions of said diagnostic image and said comparison image which are displayed, wherein the adjusting includes constructing a MIDI signal by:

providing n different MIDI channels or control numbers or combinations of them for a signal x;

assuming said MIDI channels or said control numbers or said combinations as p=1, 2, . . . n;

dividing said signal x into a n umber of parts and assigning p to said signal x; and

constructing a MIDI control change message by using a MIDI channel or a control number corresponding to p.

102. (New) The computer readable medium of claim 32, further comprising:

program code means for adjusting positions of said diagnostic image and said comparison image which are displayed by providing a MIDI signal.

103. (New) The computer readable medium of claim 32, further comprising:

program code means for adjusting positions of said diagnostic image and said comparison image which are displayed, wherein the adjusting includes constructing a MIDI signal by:

providing different MIDI channels or control numbers or combinations of them for a signal;

dividing said signal into a number of parts and assigning a number to said signal; and

constructing a MIDI control change message by using a MIDI channel or a control number.

104. (New) The computer readable medium of claim 32, further comprising:

program code means for adjusting positions of said diagnostic image and said comparison image which are displayed, wherein the adjusting includes constructing a MIDI

signal by:

providing n different MIDI channels or control numbers or combinations of them for a signal x;

assuming said MIDI channels or said control numbers or said combinations as p=1, 2, . . . n;

dividing said signal x into a n umber of parts and assigning p to said signal x; and

constructing a MIDI control change message by using a MIDI channel or a control number corresponding to p.

105. (New) The computer readable medium of claim 34, further comprising:

program code means for adjusting positions of said diagnostic image and said comparison image by providing a MIDI signal.

106. (New) The computer readable medium of claim 34, further comprising:

program code means for adjusting positions of said diagnostic image and said comparison image, wherein the adjusting includes constructing a MIDI signal by:

providing different MIDI channels or control numbers or combinations of them for a signal;

dividing said signal into a number of parts and assigning a number to said signal; and

constructing a MIDI control change message by using a MIDI channel or a control number.

107. (New) The computer readable medium of claim 34, further comprising:

program means for adjusting positions of said diagnostic image and said comparison image, wherein the adjusting includes constructing a MIDI signal by:

providing n different MIDI channels or control numbers or combinations of them for a signal x;

assuming said MIDI channels or said control numbers or said combinations as p=1, 2, . . . n;

dividing said signal x into a n umber of parts and assigning p to said signal x; and

constructing a MIDI control change message by using a MIDI channel or a control number corresponding to p.

108. (New) The computer readable medium of claim 38, further comprising:

program code means for adjusting positions of said diagnostic image and said comparison image by providing a MIDI signal.

109. (New) The computer readable medium of claim 38, further comprising:

program code means for adjusting positions of said diagnostic image and said comparison image, wherein the adjusting includes constructing a MIDI signal by:

providing different MIDI channels or control numbers or combinations of them for a signal;

dividing said signal into a number of parts and assigning a number to said signal; and

constructing a MIDI control change message by using a MIDI channel or a control number.

110. (New) The computer readable medium of claim 38, further comprising:

program means for adjusting positions of said diagnostic image and said comparison image, wherein the adjusting includes constructing a MIDI signal by:

providing n different MIDI channels or control numbers or combinations of them for a signal x;

assuming said MIDI channels or said control numbers or said combinations as p=1, 2, . . . n;

dividing said signal x into a n umber of parts and assigning p to said signal x; and

constructing a MIDI control change message by using a MIDI channel or a control number corresponding to p.